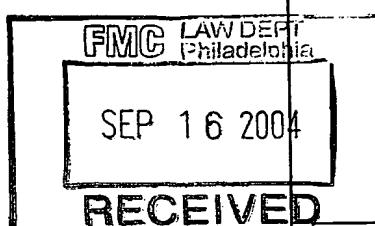


## PATENT COOPERATION TREATY

FILE

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:  
JOHN M. SHEEHAN  
FMC CORPORATION  
1735 MARKET ST.  
PHILADELPHIA, PA 19103



PCT

NOTIFICATION OF TRANSMITTAL OF  
INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

13 SEP 2004

Applicant's or agent's file reference

## IMPORTANT NOTIFICATION

60285-PCT1

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US03/20114

25 June 2003 (25.06.2003)

26 June 2002 (26.06.2002)

Applicant

FMC CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US  
Mail Stop PCT, Attn: IPEA/ US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
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Authorized officer

Frank M. Lawrence

Telephone No. 571-272-0987

## INTERNATIONAL COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

|  |   |   |
|--|---|---|
| Applicant's or agent's file reference<br><br>60285-PCT1  | FOR FURTHER ACTION  | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |
| International application No.<br><br>PCT/US03/20114  | International filing date (day/month/year)<br><br>25 June 2003 (25.06.2003) | Priority date (day/month/year)<br><br>26 June 2002 (26.06.2002)                                     |
| International Patent Classification (IPC) or national classification and IPC<br><br>IPC(7): C02F 1/72 and US Cl.: 210/759, 763, 747, 908; 405/128.75 |   |   |
| Applicant<br><br>FMC CORPORATION   |   |   |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of    sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

|  |   |
|--|---|
| Date of submission of the demand<br><br>21 January 2004 (21.01.2004)   | Date of completion of this report<br><br>31 August 2004 (31.08.2004)      |
| Name and mailing address of the IPEA/US<br><br>Mail Stop PCT, Attn: IPEA/ US<br>Commissioner for Patents<br>P.O. Box 1450<br>Alexandria, Virginia 22313-1450<br>Facsimile No. (703) 305-3230 | Authorized officer<br><br>Frank M. Lawrence<br>Telephone No. 571-272-0987 |

Form PCT/IPEA/409 (cover sheet)(July 1998)

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed. the description:

pages 1-27 as originally filed

pages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_. the claims:

pages 28 and 29, as originally filed

pages NONE, as amended (together with any statement) under Article 19pages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_. the drawings:pages NONE, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_. the sequence listing part of the description:pages NONE, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_.

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in printed form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages NONE the claims, Nos. NONE the drawings, sheets/fig NONE5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.  
PCT/US03/2004

## V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. STATEMENT

Novelty (N)

Claims 6-8, 13-17 YES  
Claims 1-5, 9-12 NO

Inventive Step (IS)

Claims NONE YES  
Claims 1-17 NO

Industrial Applicability (IA)

Claims 1-17 YES  
Claims NONE NO

## 2. CITATIONS AND EXPLANATIONS

In the response to the written opinion, applicant argues that the cited references do not disclose or suggest the present method or three component compositions used in the method, however it is submitted that the references disclose the methods and compositions as discussed below.

Claims 1-3 and 9-12 lack novelty under PCT Article 33(2) as being anticipated by US 5,741,427 (WATTS et al). WATTS et al teaches a method for the remediation of soil or groundwater comprising adding a peroxide and a Fe(II) EDTA chelate or Fe(III) salt to remove pesticides and other contaminants (see abstract, col. 3, lines 30-46, col. 4, lines 12-51, claims 1, 3).

Claims 1-5, 9 and 16 lack novelty under PCT Article 33(2) as being anticipated by US 5,700,107 (NEWTON). NEWTON teaches a method of soil remediation comprising adding a complexing agent that includes a chelating agent, a salt of iron, and a persulfate such as sodium persulfate to remove pesticides and other contaminants (abstract, col. 1, lines 52-67, col. 2, lines 24-49, col. 4, lines 1-16).

Claims 6-8 and 13-15 lack an inventive step under PCT Article 33(3) as being obvious over NEWTON. NEWTON discloses all of the limitations of the claims except that the peroxygen compound is a sodium or potassium monopersulfate or a combination of di-and monoperulfate, and that preferred amounts of chelating agent and peroxygen compounds are used. It is submitted that one having ordinary skill in the art would know to use any available persulfate that is known in the art to be capable of oxidizing contaminants in soil based on the teaching of sodium persulfate in the patent. Also, the amounts of peroxygen and chelating agents are considered to be parameters that would have been routinely optimized by one having ordinary skill in the art at the time of the invention based the nature of contamination and the desired level of decontamination.

Claim 17 lacks an inventive step under PCT Article 33(3) as being obvious over NEWTON in view of US 6,019,548 A (HOAG et al). NEWTON discloses all of the limitations of the claim except that the chelating agent, transition metal, and peroxygen compound are added sequentially. HOAG et al teach an in situ treatment method for soil remediation, comprising adding permanganate and persulfate to the soil either sequentially or together as an aqueous solution. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of NEWTON by adding the components sequentially in order to provide a method of treatment in the situation where a premix is costly or not readily available.

Claims 1-17 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

----- NEW CITATIONS -----